CHAPTER 2

LOCATION OF PUMPING STATIONS

2-1. Service areas. Service areas are determined by topographic considerations, natural boundaries, private property lines, and political jurisdictions. The requirement that an area be served by a wastewater pumping facility will in most cases be determined by building and grade elevations which are too low for proper gravity drainage.

2-2. Site selection. The location of pumping facilities within a service area will be based primarily on topographic considerations. Pumping stations will be located so that all points within the intended service area can be drained adequately by gravity sewers. Any planned development within the service area for the project 5 year life expectancy such as construction of new buildings or projected shifts in population and/or work force will be considered. The following general guidelines for site selection and location of pumping stations will be followed.

a. Pumping facilities will not, to the maximum extent practical, be constructed beneath buildings, streets, roadways, railroads, aircraft aprons or runways, or other major surface structures.

b. Pumping stations will not be located closer than 500 feet to buildings, or other facilities to be occupied by humans, unless adequate measures are provided for odor and gas control.

c. Pumping stations at wastewater treatment facilities will normally be located adjacent to, or in connection with, other plant elements as required for proper functioning of the treatment systems. Domestic wastewater treatment facilities are covered in detail in EM 1110-3-172.

d. The location of pumping stations will be made with proper consideration given to the availability of required utilities such as electric power, potable water, fire protection, gas, steam, and telephone service.

2-3. Building and site requirements.

a. Floor and building elevations. The invert elevations of incoming sewers will determine the depths of underground portions of the pumping station. It is common practice to set the maximum liquid level in the wet well at an elevation which allows 80 to 90 percent submergence of the diameter of the lowest incoming sewer. Subsurface and soil conditions at the site will dictate the structural design. The elevation of the ground floor will be set above the maximum expected flood level.

b. Architectural and landscaping. Pumping stations and facilities will be provided with fencing where necessary to prevent vandalism and to protect people from hazardous contact with electrical transformers and switching equipment.

c. Access. All pumping stations will be readily accessible from an improved road. For stations that are not enclosed, access will be provided for direct maintenance from a truck equipped with hoist attachments. For enclosed stations, provisions will be included in the structure to facilitate access for repair and to provide a means for the removal and loading of equipment onto a truck.